System Planning & Analysis Report

S-139

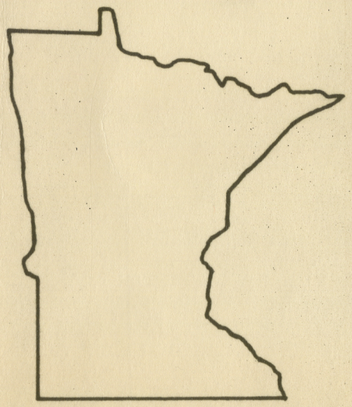
T.H. 61

CO. RD. 53 TO T.H. 19
IN WEST RED WING

S.P. 2514

JULY, 1973

PREPARED BY
OFFICE OF SYSTEM PLANNING



MINNESOTA
DEPARTMENT
OF HIGHWAYS

ADMIN 1000

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT HIGHWAY - Statewide Plan.
Rm. 807 - Ext. 3158

TO : Paul G. Velz
Road Design Engineer

DATE: July 24, 1973

FROM : Morris Gildemeister, Chief
Statewide Planning Section

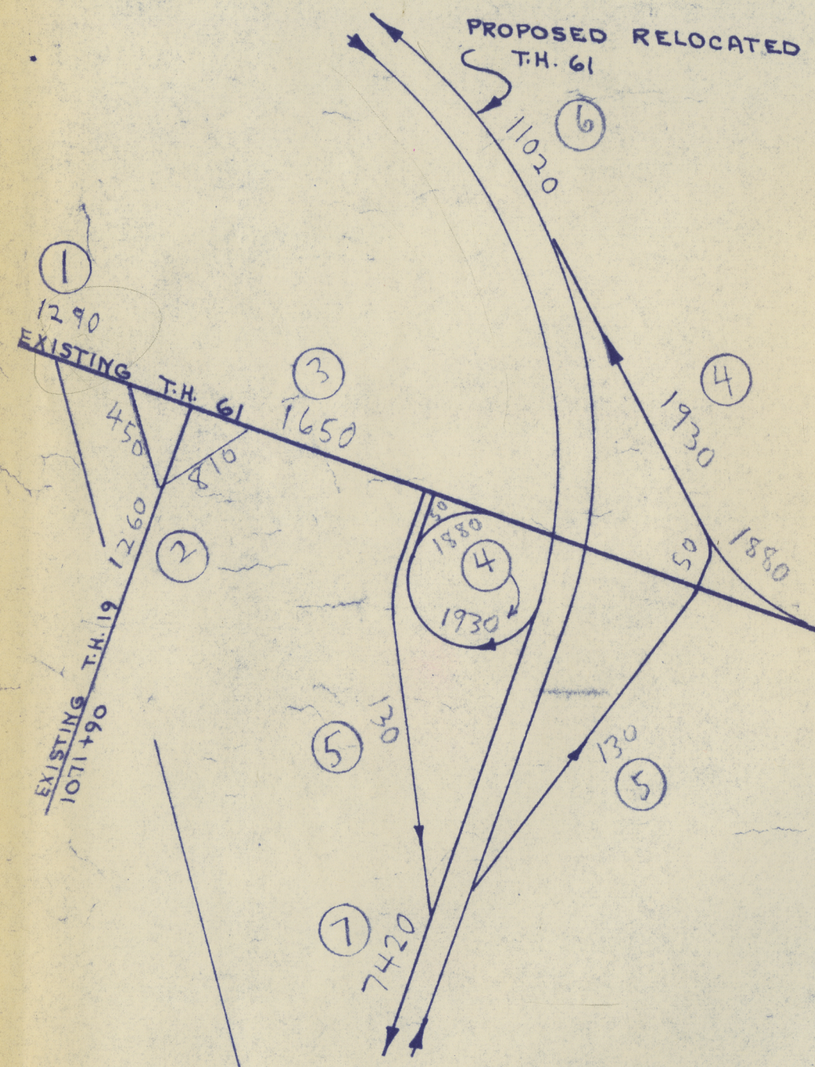
SUBJECT: T.H. 61; Co. Rd. 53 to T.H. 19 in West Red Wing;
S.P. 2514
System Planning & Analysis Report S-139

F. J. Schloegel requested this transmitted report on January 26, 1973, for 1998 traffic data. Project location is on page 2 map. Pages 3 & 4 show 1998 ADT. Page 5 is a tabulation of HC ADT and DHV. The N-18 data is processed on pages 6 and 7. The basic information for preparing this report plus traffic generated two years after completing the project is presented on page 8.

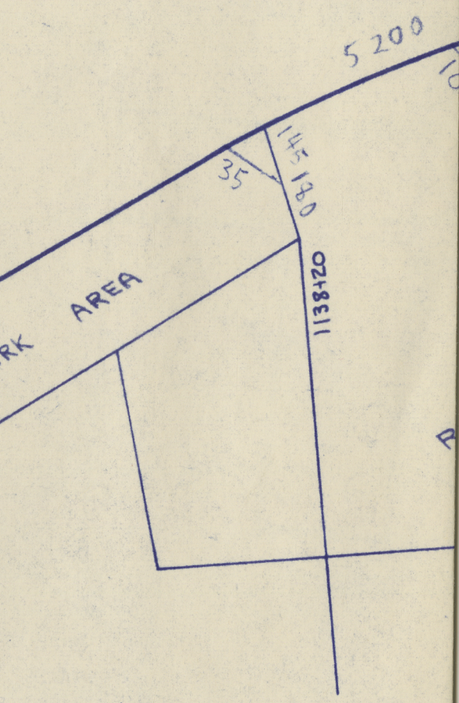
Morris Gildemeister

Morris Gildemeister, Chief
Statewide Planning Section

WF



RED WING



O = TURNING MOVEMEN

S.P. 2514 T.H. 61 A.J. 69-325

S-139
July, 1973
T.H. 61
Co. Rd. 53 to T.H. 19
in West Red Wing

S.P. 2514

Legend

Segment Number.... (11)
1998 ADT 6750

-3-

N

C. & N.W. R.R.

RESIDENTIAL

INDUSTRIAL PARK

(9) 5710

(10) 6300

5750 - 72

COUNTY HIGHWAY SHOP

1111+40

1149+40

1152+90

1188+50

1198+

5200

5330

5340

5570

5730

760

180

1157+10

1138+20

1146+30

RESIDENTIAL

AREA

SPRING CREEK

(SPRING CREEK ROAD)

C.R. 53

580

430

50

50

6600

6690

(11) 6750

7900 - 72

EXISTING T.H. 61

Rose Ann

Carol Lane

6600

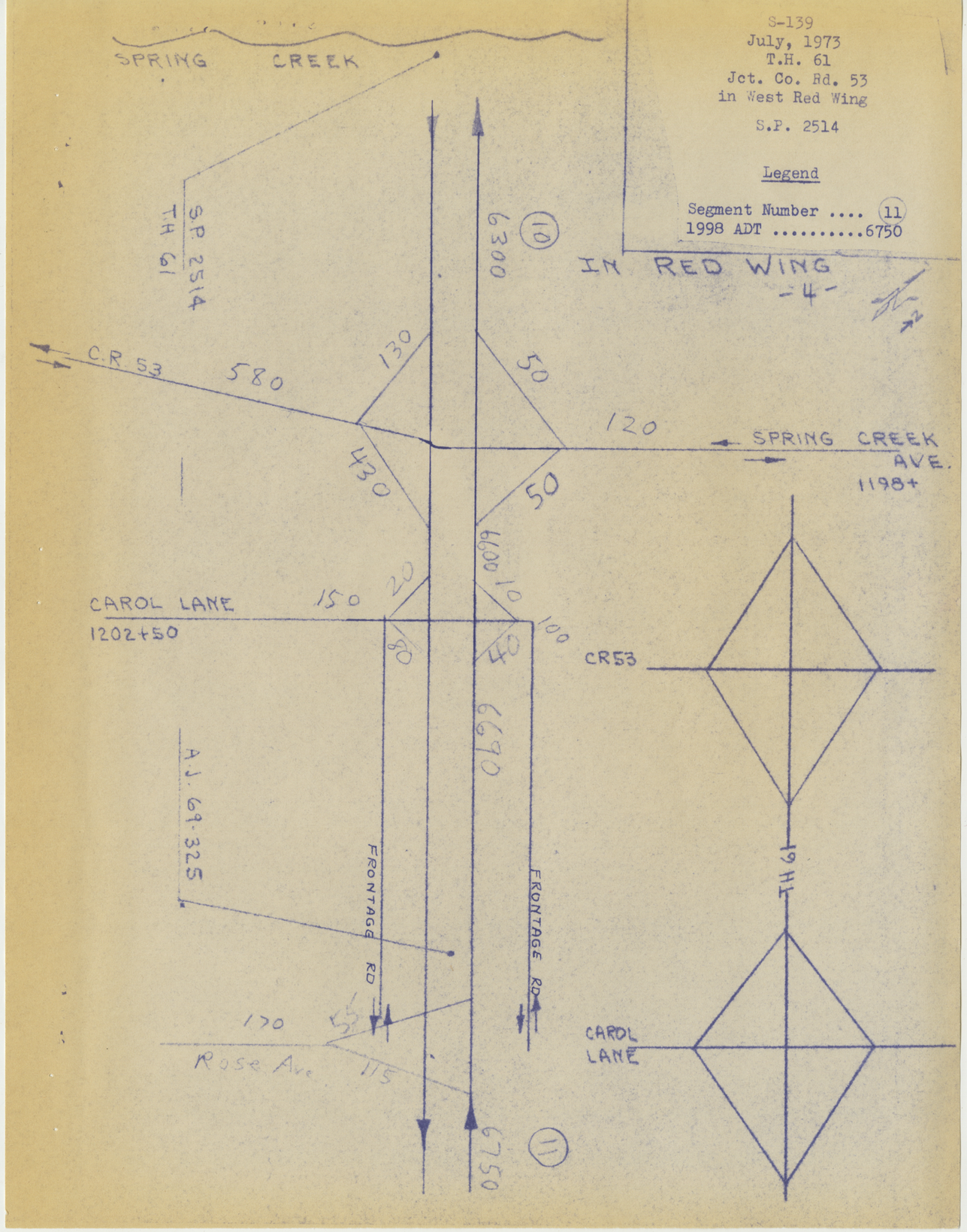
6690

= TURNING MOVEMENTS REQUIRED

SEE ADDITIONAL SHEET FOR MORE DETAILS

LENGTH = 2.5 MI.

325



Form 2985 (9-63)

TRAFFIC ESTIMATE DATA

DESIGN YEAR 1998 PART 1 OF 1

FOR

T.H. 61 S.P. 2514 LENGTH – MILES

COUNTY Goodhue LOCATION From County Road 53 to T.H. 19 in West Red Wing

BASED ON

1998 ADT FROM TRAFFIC ANALYSIS UNIT

SHOWING

TOTAL ADT ON SEGMENTS 1 THROUGH 11 AS DEFINED ON ATTACHED INDEX MAP

VEHICLE * TYPE	SEGMENT NUMBER										
	1	2	3	4	5	6	7	8	9	10	11
0	1123	1102	1430	1696	114	9704	6540	4506	5012	5545	5952
1	49	52	64	68	5	382	256	186	206	228	245
2	10	16	14	30	3	178	124	68	75	83	89
3	1	3	2	6	-	38	26	14	16	18	19
4	7	3	8	18	1	114	80	42	47	52	56
5	97	73	118	97	6	522	340	296	312	328	340
6	3	11	14	15	1	82	54	38	42	46	49
TOTAL ADT	1290	1260	1650	1930	130	11020	7420	5150	5710	6300	6750
TOTAL H. COMM. ADT	167	158	220	234	16	1316	880	644	698	755	798
TOTAL DHV	124	178	175	309	21	1856	1230	735	800	870	920
DIRECTIONAL DISTRIBUTION	55-45	60-40	55-45	100-0	100-0	55-45	55-45	55-45	55-45	55-45	55-45

* VEHICLE TYPE CODE

0 = PASSENGER CARS AND 4 TIRE TRUCKS
1 = SINGLE UNIT-2 AXLE-6 TIRE TRUCKS
2 = SINGLE UNIT-3 AXLE TRUCKS
3 = TRACTOR-TRUCK OR SEMI-TRAILER- 3 AXLES
4 = TRACTOR-TRUCK OR SEMI-TRAILER - 4 AXLES
5 = TRACTOR-TRUCK OR SEMI-TRAILER - 5 AXLES
6 = BUSES AND TRUCKS WITH TRAILERS

B

TH61 SEG 1 RED WING

VEHICLE TYPE	N18 FACTOR 1978.	CHANGE N18F	VEHICLE TYPE DISTRIBUTION 1978.	1998.
1	0.00080	1.0000	330.	470.
2	0.00400	1.0000	22.	30.
3	0.00860	1.0000	4.	5.
4	0.23138	1.0000	11.	22.
5	0.46600	1.0000	4.	4.
6	0.44955	1.0000	1.	0.
7	0.58490	1.0000	1.	3.
8	0.80653	1.0000	36.	45.
9	2.50000	1.0000	0.	0.
10	0.79600	1.0000	1.	1.

YEAR	TYPE 8 VEHICLES (NUM)	(N18F)	AADT	DAILY N18	YEARLY N18	SUM OF N18
1978	18.	0.81	205.	18.	6508.	6508.
1979	36.	0.81	418.	36.	13211.	19719.
1980	37.	0.81	427.	37.	13406.	33125.
1981	37.	0.81	435.	37.	13601.	46726.
1982	38.	0.81	444.	38.	13796.	60522.
1983	38.	0.81	452.	38.	13991.	74512.
1984	39.	0.81	461.	39.	14185.	88698.
1985	39.	0.81	469.	39.	14380.	103078.
1986	40.	0.81	478.	40.	14575.	117653.
1987	40.	0.81	486.	40.	14770.	132423.
1988	40.	0.81	495.	41.	14965.	147388.
1989	41.	0.81	503.	42.	15160.	162547.
1990	41.	0.81	512.	42.	15355.	177902.
1991	42.	0.81	520.	43.	15549.	193451.
1992	42.	0.81	529.	43.	15744.	209195.
1993	43.	0.81	537.	44.	15939.	225134.
1994	43.	0.81	546.	44.	16134.	241268.
1995	44.	0.81	554.	45.	16329.	257597.
1996	44.	0.81	563.	45.	16524.	274121.
1997	45.	0.81	571.	46.	16718.	290839.
1998	45.	0.81	580.	46.	16913.	307752.
1999	45.	0.81	589.	47.	17116.	324869.
2000	46.	0.81	597.	47.	17319.	342188.
2001	46.	0.81	606.	48.	17522.	359710.
2002	47.	0.81	614.	49.	17726.	377436.
2003	47.	0.81	623.	49.	17929.	395364.
2004	48.	0.81	631.	50.	18132.	413496.
2005	48.	0.81	640.	50.	18335.	431831.
2006	49.	0.81	648.	51.	18538.	450368.
2007	49.	0.81	657.	51.	18741.	469109.
2008	49.	0.81	665.	52.	18944.	488053.
2009	50.	0.81	674.	52.	19147.	507200.
2010	50.	0.81	683.	53.	19350.	526550.
2011	51.	0.81	691.	54.	19553.	546103.
2012	51.	0.81	700.	54.	19756.	565859.
2013	52.	0.81	708.	55.	19959.	585818.

TH61 SEG11 RED WING

VEHICLE TYPE	N18 FACTOR 1978.	CHANGE N18F	VEHICLE TYPE DISTRIBUTION 1978.	1998.
1	0.00080	1.0000	1827.	2493.
2	0.00400	1.0000	118.	161.
3	0.00860	1.0000	21.	27.
4	0.23138	1.0000	65.	110.
5	0.46600	1.0000	34.	40.
6	0.44955	1.0000	4.	8.
7	0.58490	1.0000	13.	25.
8	0.80653	1.0000	129.	153.
9	2.50000	1.0000	1.	1.
10	0.79600	1.0000	18.	22.

YEAR	TYPE 8 VEHICLES (NUM)	(N18F)	AADT	DAILY N18	YEARLY N18	SUM OF N18
1978	65.	0.81	1115.	81.	29706.	29706.
1979	130.	0.81	2270.	165.	60238.	89944.
1980	131.	0.81	2311.	167.	61065.	151009.
1981	133.	0.81	2351.	170.	61892.	212902.
1982	134.	0.81	2392.	172.	62720.	275621.
1983	135.	0.81	2432.	174.	63547.	339168.
1984	136.	0.81	2473.	176.	64374.	403542.
1985	137.	0.81	2513.	179.	65201.	468743.
1986	139.	0.81	2554.	181.	66028.	534771.
1987	140.	0.81	2594.	183.	66855.	601626.
1988	141.	0.81	2635.	185.	67682.	669308.
1989	142.	0.81	2675.	188.	68509.	737818.
1990	143.	0.81	2716.	190.	69337.	807154.
1991	145.	0.81	2756.	192.	70164.	877318.
1992	146.	0.81	2797.	194.	70991.	948309.
1993	147.	0.81	2837.	197.	71818.	1020127.
1994	148.	0.81	2878.	199.	72645.	1092771.
1995	149.	0.81	2918.	201.	73472.	1166243.
1996	151.	0.81	2959.	204.	74299.	1240542.
1997	152.	0.81	2999.	206.	75126.	1315668.
1998	153.	0.81	3040.	208.	75954.	1391621.
1999	154.	0.81	3080.	210.	76781.	1468401.
2000	155.	0.81	3121.	213.	77608.	1546008.
2001	157.	0.81	3161.	215.	78435.	1624442.
2002	158.	0.81	3202.	217.	79262.	1703704.
2003	159.	0.81	3242.	219.	80089.	1783793.
2004	160.	0.81	3283.	222.	80916.	1864709.
2005	161.	0.81	3323.	224.	81743.	1946452.
2006	163.	0.81	3364.	226.	82571.	2029022.
2007	164.	0.81	3404.	228.	83398.	2112419.
2008	165.	0.81	3445.	231.	84225.	2196643.
2009	166.	0.81	3485.	233.	85052.	2281694.
2010	167.	0.81	3526.	235.	85879.	2367573.
2011	169.	0.81	3566.	238.	86706.	2454279.
2012	170.	0.81	3607.	240.	87533.	2541812.
2013	171.	0.81	3647.	242.	88360.	2630172.

Basic Information to Prepare this Report

The data for 1998 ADT includes:

1) System 10 Computer Run for 1990 Summer Weekday ADT
2) U.S. Bureau of Census population volumes
3) Edward and Kelsey 1968 and 1995 ADT
4) Flow Band maps 1970 and 1972 ADT
5) Coverage Counts of cross street traffic volumes for 1966.
6) Least square trends to project traffic counts to 1998 ADT.

The project portion of T.H. 61 is to be a 4-lane highway facility.

DHV was obtained relating hourly counts near the project area to counts made at a continuously operated traffic recorder located on a route having similar travel patterns.

Total heavy commercial ADT is based on 1972 total heavy commercial counts with attendant ADT on flow band maps. For vehicle type counts the 1970 & N-18 load equivalent vehicle class count east of Red Wing was used.

The N-18 data on page 5 is based on class count mentioned in paragraph above. The values represent design lane traffic. It is assumed that there will be no significant change in the vehicle weight loadings in the future. This data could change if weighing was conducted on the project. The N-18 data is based on weighing operations conducted on roads in which the loadings of vehicles are thought to be similar to those vehicles on T.H. 61.

According to Federal Highway Administration Policy and Procedure Memorandum 90-1, the traffic data required specifically for environmental statements is the "anticipated new trips generated two years after completion of the highway section". Generated traffic is defined elsewhere as "the additional traffic above that which can be accounted for by diversion from other routes in the general vicinity, and normal growth".

The project on T.H. 61 will be open in 1980. The following is the traffic expected to be generated in 1982.

Segment Number	"G" for 1982
1	52
8	210
11	276